

ABSTRACT

In a dehumidification unit comprising alternate laminations of an adsorption element (1) which supports an adsorbent and which is provided with a first air ventilation passage (3) and a cooling element (2) which is provided with a second air ventilation passage (4), the first air ventilation passage (3) of the adsorption element (1) and the second air ventilation passage (4) of the cooling element (2) are adjacently formed, with a single plate member (P) lying between the first and second air ventilation passages (3, 4). As a result of such arrangement, as compared with a structure in which the air ventilation passages (3, 4) are adjacently formed with two plate members lying therebetween, the performance of heat transfer between the air ventilation passages (3, 4) is further improved, and the action of absorbing and removing heat of adsorption is promoted, whereby the dehumidification capability of the dehumidification unit is maintained at high levels over a long period of time. Furthermore, the dehumidification unit is made compact relative to its height direction by an amount corresponding to reduction in the number of plate members lying between the first air ventilation passage (3) and the second air ventilation passage (4), and cost savings are provided because of reduction in the number of component members.